

Gulf and Caribbean Research

Volume 19 | Issue 2

January 2007

Large Pelagic Fishes in the Caribbean Sea and the Gulf of Mexico: Current Status and Integrated Management

Mark S. Peterson

University of Southern Mississippi, mark.peterson@usm.edu

Nancy J. Brown-Peterson

University of Southern Mississippi, nancy.brown-peterson@usm.edu

James S. Franks

University of Southern Mississippi, jim.franks@usm.edu

DOI: 10.18785/gcr.1902.01

Follow this and additional works at: <http://aquila.usm.edu/gcr>

 Part of the [Marine Biology Commons](#)

Recommended Citation

Peterson, M. S., N. J. Brown-Peterson and J. S. Franks. 2007. Large Pelagic Fishes in the Caribbean Sea and the Gulf of Mexico: Current Status and Integrated Management. *Gulf and Caribbean Research* 19 (2): 1-3.
Retrieved from <http://aquila.usm.edu/gcr/vol19/iss2/1>

This Editorial is brought to you for free and open access by The Aquila Digital Community. It has been accepted for inclusion in *Gulf and Caribbean Research* by an authorized editor of The Aquila Digital Community. For more information, please contact Joshua.Cromwell@usm.edu.

EDITORIAL COMMENTS

LARGE PELAGIC FISHES IN THE CARIBBEAN SEA AND GULF OF MEXICO: CURRENT STATUS AND INTEGRATED MANAGEMENT

A Symposium Convened on 7 November 2006 in conjunction with the 59th Annual meeting of the Gulf and Caribbean Fisheries Institute in Belize City, Belize.

Large pelagic fishes migrate throughout the Gulf of Mexico and Caribbean Sea and are widely harvested in commercial and recreational fisheries within the region. If overexploitation of the stocks of these transboundary species and the resulting negative impacts on fishers and user groups dependent upon them are to be avoided, sustainable utilization of large pelagics must be based on collaboration among countries in the context of regional management that is compatible with and functional within the existing management regimes. Fisheries management organizations are making some progress in addressing critical large pelagic fishery issues through various management initiatives, planning efforts, fishery management plans, and, in some instances, actual implementation of regulations (Mahon and McConney 2004, NMFS 2006). Regulation of large pelagic fishes that move across national boundaries is difficult and requires improved understanding of their biology and ecology in support of regional fisheries development and management. However, the development of management strategies to ensure the region-wide sustainability of large pelagic fish, fisheries, and user groups in the Gulf of Mexico and Caribbean Sea represents a complex process and requires input from fisheries scientists, resource managers and fishers.

The purpose of this symposium was to share current research on the biology and management of large pelagic fishes in the Caribbean Sea and Gulf of Mexico region and to develop a list of recommendations for future research and management of large pelagic fishes related to critical issues of regional concern. We wished 1) to initiate interactions and focused discussion among the GCFI participants on these vitally important issues through oral and poster presentations and a panel/audience discussion, 2) to produce a series of peer-reviewed papers on the current state of knowledge of large pelagic fishes in the Caribbean Sea and Gulf of Mexico, and 3) to allow the committee, based on these presentations and subsequent panel discussions, to develop a synthesis of critical issues of regional concern and the development of a list of recommendations pertaining to future research and management of large pelagic fishes in the region (Brown-Peterson et al., *this issue*). The symposium consisted of 2 keynote speakers (*B. Luckhurst*

and *E. Prince [for N. Thomspon]*), 3 invited theme speakers (*E. Prince, J. McDowell, and P. McConney*), and contributed oral and poster presentations. The Symposium Themes were 1) Fisheries Ecology, 2) Movements and Population Structure, and 3) Management: Strategies, Problems and Solutions. This Special Issue is organized around these 3 themes and comprised 45 total oral and poster presentations.

Papers presented under the Fisheries Ecology theme addressed a number of fundamental and applied topics ranging from basic reproduction (Arocha, *this issue*), abundance and distribution (Cortes et al., Fulling et al., *this issue*) to feeding behavior (Hoffmayer et al., *this issue*) and influences of hypoxia on habitat use (Prince and Goodyear, *this issue*). Papers presented under the Movements and Population Structure theme addressed both short-term (Loefer et al., Kraus and Rooker, *this issue*) and long-term (Luckhurst, *this issue*) movements of large pelagic fishes as well as a detailed analysis of the population structure of blue marlin (McDowell et al., *this issue*). Papers presented under the Management: Strategies, Problems and Solutions theme were diverse and ranged from local island fishing culture (Grant et al., *this issue*), description of a large-scale pelagic fish tagging study (Singh-Renton and Renton, *this issue*), and an overview of the US large pelagic fisheries (Thompson and Prince, *this issue*), to the changes in the fisheries catch in a Caribbean MPA (Castro et al., *this issue*), fishing mortality of sharks (Morgan and Burgess, *this issue*), eco-tourism of whale sharks (Graham, *this issue*) and an conceptual overview of management within the wider Caribbean Sea and Gulf of Mexico (McConney et al., *this issue*). Also included are the abstracts from papers presented in the symposium but not submitted for publication in this issue. Finally, the abstracts from other presentations given at the symposium are arranged by theme and presented at the end of this issue. Additionally, the abstracts from the peer-reviewed papers, as well as, full papers or abstracts of the other symposium presentations are also found in the 59th Proceedings of the Gulf and Caribbean Fisheries Institute.

Finally, in order to incorporate as many stakeholders as possible, we established a 5 member panel (*H. Oxenford,*

B. Luckhurst, A. Kinch, E. Prince, and L. Reynal) and a moderator (M. Haughton) from throughout the Caribbean and Gulf of Mexico regions. These individuals encapsulated a broad-based expertise and collectively had vast experience in large pelagic fisheries. Each panel speaker briefly addressed one or more of the following points at the beginning of the discussion: 1) Transboundary issues; 2) Conservation; and 3) Equity in fisheries (i.e., how to maintain equity when dealing with vast differences in the “scale” of economies, political power, fisheries authorities, and fishing/post-harvest enterprises among the various Gulf and Caribbean countries). This was followed by audience participation in the form of a ‘question and answer session’ which led to identification of 4 major issues related to large pelagic fishes as well as possible recommendations (Brown-Peterson et al., *this issue*).

The Symposium Organizing Committee consisted of Jim Franks, Nancy Brown-Peterson, Mark S. Peterson (all from The University of Southern Mississippi, USA), Peter Sheridan (National Marine Fisheries Service, Panama City, USA), Brian Luckhurst (Department of Environmental Protection, Bermuda), Hazel Oxenford, and Patrick McConney (both from the University of the West Indies, Barbados).

ACKNOWLEDGEMENTS

We thank the EXCOM of the Gulf and Caribbean Fisheries Institute (GCFI) and the myriad of sponsors (*see below*) without whose financial and technical support, this symposium would not have been possible. Specifically, B. Glazer and A. Acosta of the GCFI were vital in terms of logistics before, during and after the meeting. Additionally, the remainder of the symposium committee, B. Luckhurst, P. Sheridan, H. Oxenford, and P. McConney each played important roles in the organization, onsite logistics, and post-symposium ‘decompression.’ Their friendship and dedication is very much appreciated.

LITERATURE CITED

- Arocha, F. 2007. Swordfish reproduction in the Atlantic ocean: an overview. *Gulf and Caribbean Research* 19(2):21–36
- Brown-Peterson, N.J., J.S. Franks, M.S. Peterson, and P.E. McConney. 2007. Where do we go from here: A summary of issues of concern and recommendations developed during the panel discussion of the Large Pelagic Fishes Symposium. *Gulf and Caribbean Research* 19(2):161–162.
- Castro, E., H. Bent, C. Ballesteros, and M. Prada. 2007. Large pelagics in the southern section of the Seaflower Marine Protected Area, San Andres archipelago, Columbia: a fishery in expansion. *Gulf and Caribbean Research* 19(2):131–139.
- Cortes, E., C. Brown, and L.R. Beerkircher. 2007. Relative abundance and average size trends of pelagic sharks in the northwest Atlantic ocean, including the Gulf of Mexico and Caribbean Sea. *Gulf and Caribbean Research* 19(2):37–52.
- Fulling, G., D. Fertl, K. Knight, and W. Hoggard. 2007. Distribution of molidae in the northern Gulf of Mexico. *Gulf and Caribbean Research* 19(2):53–67.
- Graham, R.T. 2007. Whale sharks of the western Caribbean: an overview of current research and conservation efforts and future needs for effective management of the species. *Gulf and Caribbean Research* 19(2):149–159.
- Grant, S., F. Berkes, and J. Brierley. 2007a. Understanding the local livelihood system in resource management: the pelagic longline fishery in Gouyave, Grenada. *Gulf and Caribbean Research* 19(2):113–122.
- Grant, S., F. Berkes, and J. St. Louis. 2007b. A history of change and reorganization: the pelagic surface longline fishing industry in Gouyave, Granada. *Gulf and Caribbean Research* 19(2):141–148.
- Hoffmayer, E.R., J.S. Franks, W.B. Driggers III, K.J. Oswald, and J.M. Quattro. 2007. Observations of a feeding aggregation of whale sharks, *Rhincodon typus*, in the north central Gulf of Mexico. *Gulf and Caribbean Research* 19(2):69–73.
- Kraus, R.T. and J.R. Rooker. 2007. Patterns of vertical habitat use by Atlantic blue marlin (*Makaira nigricans*) in the Gulf of Mexico. *Gulf and Caribbean Research* 19(2):89–97.
- Loefer, J., G.R. Sedberry, and J.C. McGovern. 2007. Nocturnal depth distribution of western North Atlantic swordfish (*Xiphias gladius*, Linnaeus, 1758) in relation to lunar illumination. *Gulf and Caribbean Research* 19(2):83–88.
- Luckhurst, B. 2007. Large pelagic fishes in the wider Caribbean and northwest Atlantic Ocean: Movement patterns determined from conventional and electronic tagging. *Gulf and Caribbean Research* 19(2):5–14.
- Mahon, R and P.A. McConney, eds. 2004. Management of large pelagic fisheries in CARICOM countries. Food and Agriculture Organization, Fisheries Technical Paper. No 464. Rome, FOA, 149 p.
- McDowell, J.R., J.E.L. Carlsson, and J.E. Graves. 2007. Genetic analysis of blue marlin (*Makaira nigricans*) stock structure in the Atlantic ocean. *Gulf and Caribbean Research* 19(2):75–82.
- McConney, P., H.A. Oxenford, and M. Haughton. 2007. Management in the Gulf and Caribbean: Mosaic or melting pot? *Gulf and Caribbean Research* 19(2):103–112.
- Morgan, A. and G.H. Burgess. 2007. At-vessel fishing mortality for six species of sharks caught in the northwest Atlantic and Gulf of Mexico. *Gulf and Caribbean Research* 19(2):123–129.
- NMFS. 2006. Final consolidated Atlantic highly migratory species fishery management plan. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD, USA, 1600 p.
- Prince, E.D. and C.P. Goodyear. 2007. Consequences of ocean scale hypoxia constrained habitat for Atlantic tropical pelagic fishes. *Gulf and Caribbean Research* 19(2):16–20.
- Singh-Renton, S. and J. Renton. 2007. CFRAMP’s large pelagic fish tagging programme. *Gulf and Caribbean Research* 19(2):99–102.
- Thompson, N.B. and E. Prince. 2007. Strategic investments in large pelagic research. *Gulf and Caribbean Research* 19(2):15.

EDITORIAL COMMENTS

**Peterson, Editor-in-Chief, Gulf and Caribbean Research,
Nancy J. Brown-Peterson, and James S. Franks¹**

Department of Coastal Sciences

¹*Center for Fisheries Research and Development*

Gulf Coast Research Laboratory

The University of Southern Mississippi

703 East Beach Drive

Ocean Springs, MS 39564

SYMPOSIUM SPONSORS

The Symposium Organizing Committee expresses our gratitude to the following sponsors for making the Large Pelagic Fishes Symposium a reality.

Southeast Fisheries Science Center and the Office of International Affairs of NOAA FISHERIES; Darden Restaurants, Inc.; The University of Southern Mississippi, Center for Fisheries Research and Development, Gulf Coast Research Laboratory; The Billfish Foundation; Caribbean Regional Fisheries Mechanism (CRFM); Mississippi Gulf Coast Billfish Classic; The Harte Research Institute for Gulf of Mexico Studies; Release Marine; and Carey Chen.

